

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A process for detecting an initiation of a burst in a digital received signal $r(v)$ during use of a digital reference signal $p(v)$, said process comprising the following procedural steps:

executing a correlation by formation of a cost function $L(v_o)$ with a correlation function within a correlation interval dependent upon a time delay of the received signal $r(v)$ relative to a bit offset or a chip offset v_o , which is characterized by the reference signal $p(v)$, whereby addends of the correlation function were multiplied by a frequency offset correction factor, namely $e^{-j2\pi\Delta\tilde{f}v}$, the frequency offset correction factor being characterized by a frequency offset $\Delta\tilde{f}$ of the received signal $r(v)$ relative to the reference signal $p(v)$; and

seeking a maximum $Max(L)$ of the cost function $L(v_o)$ dependent upon the bit offset or the chip offset v_o and upon the frequency offset $\Delta\tilde{f}$ whereby the maximum $Max(L)$, following a carrying out of a Fourier Transform is sought in a frequency space.

2. (Original) The process of claim 1, wherein the cost function $L(v_o)$ is formed corresponding

$$\text{to the equation: } L(v_o, \Delta\tilde{f}) = \left| \sum_{v=0}^{N-1} r(v - v_o) p^*(v) \cdot e^{-j2\pi\Delta\tilde{f}v} \right|$$

wherein:

- $r(v)$ is the received signal
- v is a bit index or a chip index
- $p^*(v)$ is a conjugate complex reference signal
- v_o is the bit offset or the chip offset
- $\Delta\tilde{f}$ is the frequency offset, and
- N is a length of the correlation interval.

3. (Original) The process of claim 2, wherein the maximum $Max(L)$ of the cost function $L(v_o)$, by the determination of the maximum of a power spectrum, is sought in the frequency space, said power spectrum being:

$$|\tilde{R}(f, v_0)| = \left| \sum_{v=0}^{N_{FFT}-1} r(v - v_0) p^*(v) \cdot e^{-j \frac{2\pi}{N_{FFT}} f \cdot v} \right|$$

wherein

N_{FFT} is a length of a discrete Fourier Transform, and

f is an estimated frequency offset $\Delta \tilde{f}$ multiplied by N_{FFT} .

4. (Original) The process of claim 1, wherein the correlation is executed in a plurality of time related offset correlation intervals $K \cdot N$ and the thereby obtained correlation results $R_{r,p}(v_0, k)$ are incoherently determined.
5. (Original) The process of claim 1, wherein before the correlation an instantaneous power $P(v)$ of the received signal $r(v)$ is determined and the correlation is only executed in one range, wherein the instantaneous power $P(v)$ is greater than a power threshold $TH \cdot MIN\{P(v)\}$.
6. (Currently Amended) The process of claim 5, wherein the instantaneous power $P(v)$ is determined by the equation:

$$P(v) = \lambda \cdot P(v - 1) + (1 - \lambda) \cdot |r(v)|^2$$

wherein:

$r(v)$ is the received signal

v is ~~at~~ the bit index or ~~at~~ the chip index

λ is a constant greater than 0 and less than 1.

7. (Original) A digital memory storage medium with electronically based read-out control systems, said digital memory storage medium being adapted to coact with a programmable computer or a digital processor to conduct the process of claim 1.

Claims 8-10 (Canceled).